

# ERIC GONG

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## EDUCATION

### Harvard University

Cambridge, MA

*A.B. Computer Science & Statistics, Concurrent S.M. Intended*

Relevant Coursework: Distributed Systems, Systems Security, Differential Privacy, Data Structures and Algorithms, System Programming, Abstraction and Design in Computation

## TECHNICAL SKILLS & PROJECTS

**Programming:** C/C++, R, Python, OCaml, JavaScript, React, TailwindCSS, C#, SQL, MATLAB

### Harvard's CS2630: Systems Security Course Research Paper

- Proposed a holistic framework for evaluating the efficacy of cryptographic hash functions, examining theoretical guarantees, performance on benchmarks, and ease of deployment in software stacks

### Harvard's GenEd1179: Psychotherapy and the Modern Self Research Paper

- Evaluated the efficacy of using LLMs to diagnose Mental Disorders given clinical vignettes detailing patient background, symptoms, and experiences

## RESEARCH

### Dr. Bruce Schneier's Lab, Harvard Kennedy School

Cambridge, MA

**Researcher**, Topic: "The Potential of AI-based Political Issue Polling Agents" Feb 2024 – Present

- Design prompt engineering methodologies to elicit human-like political survey responses from LLMs conditioning on question type, topic, and respondent demographics
- Co-authored commentary piece on AI Political Polling, published with the Harvard Kennedy School Ash Center <https://ash.harvard.edu/articles/using-ai-for-political-polling/>

### Dana-Farber Cancer Institute

Cambridge, MA

**Researcher and Software Developer**

Sept 2024 – Present

- Develop web app and API gateways to deploy statistical tools developed by Dana-Farber researchers for usage by patients, clinics, and other researchers

### Paragon Fellowship

Cambridge, MA

**Research Fellow**, Topic: "Analyzing US Department of Energy Supercomputers" Sept 2024 – Present

- Analyze the technical feasibility of deploying Large Language Models on the Department of Energy's Frontier Supercomputers, for use by researchers across various disciplines

### AI.MED Lab, University of Alabama

Birmingham, AB

**Researcher**, Topic: "Prioritizing Complex Disease Genes using Public Databases" Jan 2021 – Feb 2024

- Proposed novel iterative framework for disease-gene correlation prediction via Graph Neural Network algorithms, presenting findings at the 38<sup>th</sup> Southern Biomedical Engineering Conference
- First-author paper published in Volume 59 (2) of the Journal for Biomedical Instrumentations

### LINDSAY Human Lab, University of Calgary

Calgary, AB, Canada

**Researcher**, Topic: "Using AR to educate the public on COVID-19"

Mar 2020 – Jun 2023

- Designed Augmented Reality Application using Unreal Engine's C++ and Node-graph architecture
- Collaborated with PhD students and proposed the novel implementation of the Niagara Particle Engine to visualize COVID in AR for use in Microsoft's HoloLens 2 AR Headset

## LEADERSHIP AND ACTIVITIES

- Harvard General Education Committee** Cambridge, MA  
**Committee Member** Dec 2023 – Present
- Collaborate with tenured professors and Harvard Deans to approve 15 new courses, review 49 existing courses, creating guidelines for Harvard Faculty teaching the General Education Curriculum
- Harvard Computer Society Tech for Social Good** Cambridge, MA  
**Software Engineer** Sept 2024 – Present
- Fine-tune LLM models for deployment on a REACT web app, decreasing resource retrieval time for One Degree, a non-profit providing crisis response and similar resources for those in need
- Harvard Undergraduate Data Analytics Group** Cambridge, MA  
**Associate** Jan 2024 – Present
- Co-lead team of 8 analysts, guiding collaboration with an International Biotech company
  - Train and deploy Natural Language Processing models for clinical data conversion usage
- MIT Media Lab's Future You Digital Chat Intervention** Boston, MA  
**Red Teaming and Pen-tester** Aug 2024 – Present
- Identify potential vulnerabilities in Future You's web interface that may leak sensitive user data
  - Examine the rigor of the Future You LLM in rejecting prompt hacking techniques
- STEM Society** Calgary, AB, Canada  
**Founder and Website Developer** Jun 2019 – Present
- Founded federal non-profit providing resources empowering youth to explore their passion in STEM
  - Developed full-stack website Stemsociety.ca using C# and MySQL, receiving 10,000+ visits
- Harvard Global Research and Consulting Organization (GRC)** Cambridge, MA  
**Associate/Consultant** Sept 2023 – Feb 2024
- Advise billion-dollar NGO Doctors Without Borders on increasing digital resource accessibility under low-bandwidth conditions via Web Performance Optimization techniques, case-study research and interviews with target user demographics